

U.S. APPLICATION NO. (if known, see 37 CFR 1.5) <b>10/070769</b>	INTERNATIONAL APPLICATION NO. PCT/ES99/00287	ATTORNEY'S DOCKET NUMBER <b>HERR 19510</b>			
21. <input checked="" type="checkbox"/> The following fees are submitted:		<b>CALCULATIONS PTO USE ONLY</b>			
<b>BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)):</b>					
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO . . . . .		\$1000.00			
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO . . . . .		\$860.00			
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO . . . . .		\$710.00			
International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) . . . . .		\$690.00			
International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) . . . . .		\$100.00			
<b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>		\$ 1,000.00			
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input checked="" type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).		\$ 130.00			
<b>CLAIMS</b>		<b>NUMBER FILED</b>	<b>NUMBER EXTRA</b>	<b>RATE</b>	\$
Total claims		3 - 20 =	0	x \$18.00	\$
Independent claims		1 - 3 =	0	x \$80.00	\$
MULTIPLE DEPENDENT CLAIM(S) (if applicable)				+ \$270.00	\$
		<b>TOTAL OF ABOVE CALCULATIONS =</b>			\$ 1,130.00
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.		+			\$
		<b>SUBTOTAL =</b>			\$ 1,130.00
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).					\$
		<b>TOTAL NATIONAL FEE =</b>			\$ 1,130.00
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property		+			\$
		<b>TOTAL FEES ENCLOSED =</b>			\$ 1,130.00
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<p><b>NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status.</b></p> <p>SEND ALL CORRESPONDENCE TO:</p> <p><b>ROSENMAN &amp; COLIN LLP</b>  <b>575 Madison Avenue</b>  <b>New York, New York 10022-2585</b>  <b>(212) 940-8800</b>  <b>(212) 940-8986</b></p>					
 <p>SIGNATURE <b>Thomas L. Bean</b></p> <p>NAME <b>44,528</b></p> <p>REGISTRATION NUMBER</p>					

10/070769

JC10 Rec'd PCT/PTO 06 MAR 2002

I/PRTS

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**ELECTRICAL DIFFUSER FOR AIR FRESHENERS, INSECTICIDES AND  
THE LIKE**

**D E S C R I P T I O N**

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**OBJECT OF THE INVENTION**

The present invention relates to an electrical diffuser, of those which cause the evaporation or 10 sublimation of an air freshener, insecticide or the like, diffuser which is designed and structured in order to obtain an automatic operation limited to the moments in which its operation is more necessary, according to the type of product diffused.

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**BACKGROUND OF THE INVENTION**

Diffusers are known which, with an air freshener, insecticide, etc. as the raw matter, are provided with a 20 heating device, specifically an electrical resistance, which supplies the required heat to the product, whether in solid or liquid state, in order to establish the suitable rate of evaporation or sublimation.

25 More specifically, these devices are provided with a body in which is generally established the plug for the electrical power supply to the heating element, inside which is a housing either for a pill of solid product or for the container of the liquid product, with the 30 corresponding evaporation wick.

Their design is generally such that the electrical plug acts as a wall support for the diffuser within the socket chosen for it in a room, so that its mechanical 35 attachment brings about an electrical connection in

parallel, with in the best of cases a switch provided to disconnect the power supply from the heating element without having to unplug the device from its place of operation.

5

This implies that either the device is permanently connected, twenty-four hours a day, as often occurs, or one must remember to connect and disconnect it when desired or when it is considered necessary, as if the diffuser is used 10 as an air freshener there is no sense in having it operate at night and if it is used as an insecticide it is not required during the day, as mosquitoes generally act at night-time.

#### 15 DESCRIPTION OF THE INVENTION

The electrical diffuser disclosed by the invention has been conceived and designed in order to solve the above problems to a full satisfaction, allowing an automatic 20 operation with an automatic electrical connection and disconnection depending on the luminous intensity of the surroundings.

For this purpose, and more specifically, based on 25 the structure of any conventional electrical diffuser, that is, employing an electrical heating resistance provided with means for its connection to the electricity network of any home or premises, the diffuser of the invention centers 30 its characteristics in that it incorporates a light sensor with the associated electronic circuitry, which acts as a switch for the heating element so that, depending on the signal received by said light sensor, the diffuser will operate or not.

35 More specifically, when the diffuser is meant for

air fresheners said electronic switch shall cause the connection of the heating element in the presence of light, so that the diffuser operates during the daytime and is off during the night, while when it is meant to diffuse insecticides its operation is the inverse, that is, the absence of light resulting in connection and its presence the disconnection, so that the diffuser operates during the daytime and is off during the night.

#### 10 DESCRIPTION OF THE DRAWINGS

As a complement of the description and in order to aid a better understanding of the characteristics of the invention, according to an example of a preferred embodiment, the memory is accompanied by a set of drawings where, for purposes of illustration and in a non-limiting sense the following is represented:

Figure 1.- Shows, in a side elevation view, an electrical diffuser for air fresheners, insecticides and the like according to the object of the invention.

Figure 2.- Shows an axial view of the same diffuser.

Figure 3.- Shows, finally, a plan view of the same diffuser.

#### PREFERRED EMBODIMENT OF THE INVENTION

In view of these figures the electrical diffuser disclosed is shown to comprise, as any conventional diffuser of this type, a body (1) structured according to any design lines and from which emerges, as a single part, a plug (2) with pins (3), which in addition to being the

means for electrical connection of the diffuser circuit also serve as the means of attachment to the wall electrical socket.

5       Based on this basic and conventional structure, the electrical diffuser disclosed by the invention centers its characteristics in that it incorporates a light sensor (4) with the associated electronic circuitry, which acts as a switch for the classical electrical resistor or heating  
10      which supplies the product pill or the product container the heat required to diffuse said product.

Thus, according to the above, connection and disconnection of the heating element occurs automatically  
15      depending on the luminosity of the surroundings sensed by light sensor (4), without prejudice of the electrical diffuser being unplugged in a conventional manner by extracting pins (3) from the socket.

20       Based on this basic structure and depending on the specific application of the diffuser, the electronic circuit which comprises the switch may differ slightly, so that as mentioned above, when the diffuser is meant for air fresheners said electronic switch shall close the power  
25      supply circuit for the heating element in the presence of light, that is, when light sensor (4) is excited, so that the diffuser operates during the daytime, while when it is meant to diffuse insecticides its operation is the inverse, that is, the presence of light resulting in an open circuit  
30      and light sensor (4) closing the circuit when it detects the presence of light, so that the diffuser operation is limited to the night-time, which is when the insecticide product is required.

35       Lastly, for said electronic circuitry comprising

the switch excited by the light sensor (4) there are a number of conventional solutions which may be used for other purposes, any of which can in principle be valid as long as its baseplate size is suitable for the capacity of  
5 case (1) and/or said case is adapted to said printed circuit board.

C L A I M S

1.- Electrical diffuser for air fresheners, insecticides and the like, of the type which include a  
5 heating element embodied as an electrical resistor, suitably arranged in order to supply heat to either a solid product pill, or a container of a liquid product, so that the heat generated by said heating element causes evaporation or sublimation of the product concerned,  
10 characterised in that it incorporates an electronic switch automatically operated by a light sensor, so that the operation of the diffuser depends on the ambient light intensity.

15 2.- Electrical diffuser for air fresheners, insecticides and the like, as claimed in claim 1, characterised in that the electronic switch closes the power supply circuit of the heating element when a certain ambient light intensity is exceeded.

20

3a.- Electrical diffuser for air fresheners, insecticides and the like, as claimed in claim 1, characterised in that the electronic switch closes the power supply circuit of the heating element when under a  
25 certain ambient light intensity.

ELECTRICAL DIFFUSER FOR AIR FRESHENERS, INSECTICIDES AND  
THE LIKE

ABSTRACT

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An electrical diffuser is disclosed which evaporates air fresheners, insecticides or the like, which operates automatically depending on the ambient light intensity, so that when it is used for air fresheners the 10 diffuser operates during the daytime and when used for insecticides it operates at night and disconnects when daytime arrives. Said automatic operation is achieved by means of an electronic circuit provided with a light sensor which operates an electronic switch for the typical 15 electrical resistor which causes evaporation of the product.

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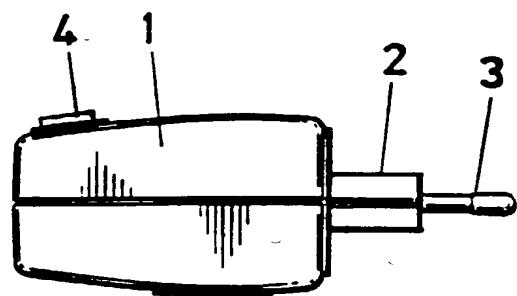


FIG. 1

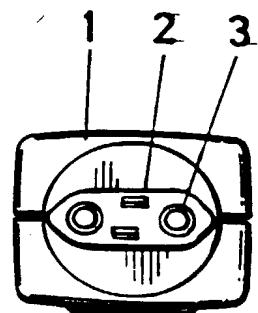


FIG. 2

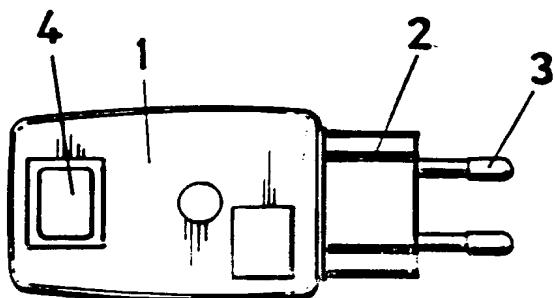


FIG. 3

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PTO/SB/01 (12-97)

Approved for use through 9/30/00. OMB 0851-C032

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**DECLARATION FOR UTILITY OR  
DESIGN  
PATENT APPLICATION  
(37 CFR 1.63)**

Declaration Submitted with Initial Filing       Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required) OR

<b>Attorney Docket Number</b>		HERR 19.510
<b>First Named Inventor</b> Jordi BASAGANAS MILLAN et al		
<b><i>COMPLETE IF KNOWN</i></b>		
<b>Application Number</b>		10 / 070,769
<b>Filing Date</b>		March 6, 2002
<b>Group Art Unit</b>		
<b>Examiner Name</b>		

**As a below named inventor, I hereby declare that:**

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Electrical Diffuser for Air Fresheners, Insecticides and the Like

the specification of which  
is attached hereto  
OR  
 was filed on (MM/DD/YYYY) **March 6, 2002** as United States Application Number or PCT International

Application Number 10/070,769 and was amended on (MM/DD/YYYY) \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(n)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	Certified Copy Attached? NO
			<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Additional foreign application numbers are listed on a supplemental priority date sheet PTO/SB/028 attached hereto.

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) (listed below).

Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

(Page 1 of 2)

*[Signature]* *[Date]*  
Burden Hour Statement. This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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PTO/SB/01 (12-97)

## DECLARATION — Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:  Customer Number \_\_\_\_\_ →  Place Customer Number Bar Code Label here  
 OR  
 Registered practitioner(s) name/registration number listed below

Name	Registration Number	Name	Registration Number
Samson Helfrott	23,072	Linda S. Chan	42,400
Aaron B. Karas	18,923	Michael Markowitz	30,659
Thomas L. Bean	44,528	Brian S. Myers	46,947
Harris A. Wolin	39,432	Emma Shleifer	29,734
Shahan Islam	32,507		9

Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.

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			(212) 940-8986

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that those statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor:	<input type="checkbox"/> A petition has been filed for this unsigned Inventor				
Given Name (first and middle if any)			Family Name or Surname		
Jordi			BASAGANAS MILLAN		
Inventor's Signature	ESX				
Date	21-06-2002				
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City	Barcelona	State	ZIP	E-08290	Country
					Spain
<input type="checkbox"/> Additional inventors are being named on the _____ supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto					